

# PATENT ABSTRACTS OF JAPAN

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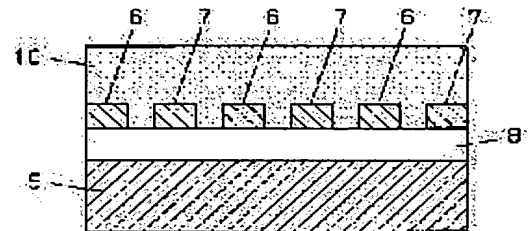
## (54) ODOR SENSOR AND ITS MANUFACTURING METHOD

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a compact sensor capable of measuring an odor substance concentration with high sensitivity by means of a simple detection circuit and a method for easily manufacturing it.

**SOLUTION:** This odor sensor is constructed of a source electrode 6, a drain electrode 7, an insulator film 8, a gate electrode 9, and a thin film 10 prepared by dispersing a nano-structure carbon material including a metal element/ion in an organic compound or a conductive polymer. Because the sensor is provided with an electric field-effect transistor structure, a change in an electric characteristic of the thin film 10 due to adsorption of an odor substance to the thin film made of the organic compound or the conductive polymer containing the dispersed nano-structure carbon material including the metal element/ion can be detected with high sensitivity while an electric current value between the source electrode and the drain electrode is adjusted by impressed voltage on the gate electrode.

6 ソース電極  
7 ドレイン電極  
8 絶縁体膜  
9 ゲート電極  
10 ナノ構造炭素材料が分散された薄膜



## LEGAL STATUS

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